

CLAIMS:

*endorse**for*

Sub 53 1. A peptide which binds antibodies that are found in elevated levels in body fluids of schizophrenic patients.

5 2. A peptide according to claim 1, which binds antibodies that are capable of specific binding to a peptide having the amino acid sequence of Seq. I.D. No. 2.

Sub 54 3. A peptide according to claim 1 ~~etc~~, which binds antibodies that are capable of binding to a peptide selected from the group, consisting 10 of:

- i. SGETEDTFIADLVVGLCTGQIKTGAPCR (Seq. I.D. No. 1)
- ii. LVVGLCTCQIKTGPAC (Seq. I.D. No. 2)
- iii. IADLVVGLCTGQIKTGAPCR (Seq. I.D. No. 3)
- iv. ADLVVGLCTGQIKTGAPCR (Seq. I.D. No. 4)
- 15 v. DLVVGLCTGQIKTGAPCR (Seq. I.D. No. 5)
- vi. LVVGLCTGQIKTGAPCR (Seq. I.D. No. 6)
- vii. LVVGLCTGQIKTGPACR (Seq. I.D. No. 7)
- viii. LVVGLCTPQIKTGPACR (Seq. I.D. No. 8)

4. A peptide according to ^{Claim 1} ~~any one of claims 1-3~~, capable of 20 binding to antibodies which do not bind to ~~peptides selected from the group~~ consisting of:

- i. SGETEDTFIADLVVGLCTGQ (Seq. I.D. No. 9)
- ii. VVGLCTGQIKTGAPCR (Seq. I.D. No. 10)
- 25 iii. CTGQIKTGAPCR (Seq. I.D. No. 11)
- iv. LVVGLCTGQIKTGAPC (Seq. ID. No. 12)
- v. LVVGLCTGQIKTGAP (Seq. ID No. 13)
- vi. LVVGLCTGQIKTGPAC (Seq. ID No. 14)

2. 5. A peptide according to ^{claim 1} any one of claims 1-4, comprising an amino acid sequence selected from the group, consisting of:

- i. SGETEDTFIADLVVGLCTGQIKTGAPCR (Seq. I.D. No. 1)
- ii. LVVGLCTCQIKTGAPAC (Seq. I.D. No. 2)
- 5 iii. IADLVVGLCTGQIKTGAPCR (Seq. I.D. No. 3)
- iv. ADLVVGLCTGQIKTGAPCR (Seq. I.D. No. 4)
- v. DLVVGLCTGQIKTGAPCR (Seq. I.D. No. 5)
- vi. LVVGLCTGQIKTGAPCR (Seq. I.D. No. 6)
- vii. LVVGLCTGQIKTGAPCR (Seq. I.D. No. 7)
- 10 viii. LVVGLCTPQIKTGAPCR (Seq. I.D. No. 8).

2. 6. A peptide according to ^{claim 1} any one of claims 1-4, selected from the group consisting of:

- i. SGETEDTFIADLVVGLCTGQIKTGAPCR (Seq. I.D. No. 1)
- 15 ii. LVVGLCTCQIKTGAPAC (Seq. I.D. No. 2)
- iii. IADLVVGLCTGQIKTGAPCR (Seq. I.D. No. 3)
- iv. ADLVVGLCTGQIKTGAPCR (Seq. I.D. No. 4)
- v. DLVVGLCTGQIKTGAPCR (Seq. I.D. No. 5)
- vi. LVVGLCTGQIKTGAPCR (Seq. I.D. No. 6)
- 20 vii. LVVGLCTGQIKTGAPCR (Seq. I.D. No. 7)
- viii. LVVGLCTPQIKTGAPCR (Seq. I.D. No. 8)

2. 7. A peptide which binds antibodies that are found in elevated levels in body fluids of schizophrenic patients, said peptide comprising at 25 least one antigenic epitope, said epitope having a cyclic three dimensional structure consisting a hydrophobic core and a positively charged extension.

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8. An assay for the diagnosis of schizophrenia in an individual, comprising the following steps:

(a) obtaining a sample from said individual being a blood sample, a platelet-containing fraction thereof, or a fraction containing platelet-associated antibodies (PAA) shed from the platelets;

(b) contacting said sample with a peptide capable of binding to antibodies that are found in elevated levels in body fluids of schizophrenic patients.

(c) determining the level of binding of said peptide to said sample, a level higher than the binding level of said peptide to a sample from non-schizophrenic individuals indicating that said individual has a high likelihood of having schizophrenia.

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9. An assay in accordance with claim 8, wherein the peptide of step (b) is a peptide having the amino acid sequence of Seq.ID.No.2

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10. An assay in accordance with claim 8, wherein the peptide in step (b) comprises an a.a. sequence selected from the group consisting of:

i. SGETEDTFIADLW~~V~~GLCTGQIKTGAPCR (Seq. I.D. No. 1)
ii. LVVGLCTCQIKTGPAC (Seq. I.D. No. 2)
iii. IADLVVGLCTGQIKT~~G~~APCR (Seq. I.D. No. 3)
iv. ADLVVGLCTGQIKT~~G~~APCR (Seq. I.D. No. 4)
v. DLVVGLCTGQIKT~~G~~APCR (Seq. I.D. No. 5)
vi. LVVGLCTGQIKT~~G~~APCR (Seq. I.D. No. 6)
vii. LVVGLCTGQIKTGPACR (Seq. I.D. No. 7)
viii. LVVGLCTPQIKTGPACR (Seq. I.D. No. 8).

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11. An assay according to claim 8, wherin the peptide in step (b) is a peptide selected from the group consisting of:

i. SGETEDTFIADLVVGLCTGQIKTGAPCR (Seq. I.D. No. 1)
ii. LVVGLCTCQIKTGPAC (Seq. I.D. No. 2)

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- iii. IADLVVGLCTGQIKTGAPCR (Seq. I.D. No. 3)
- iv. ADLVVGLCTGQIKTGAPCR (Seq. I.D. No. 4)
- v. DLVVGLCTGQIKTGAPCR (Seq. I.D. No. 5)
- vi. LVVGLCTGQIKTGAPCR (Seq. I.D. No. 6)
- vii. LVVGLCTGQIKTGPACR (Seq. I.D. No. 7)
- viii. LVVGLCTPQIKTGPACR (Seq. I.D. No. 8)

12. An assay in accordance with Claim 8, wherein the peptide in step (b) is a peptide in accordance with claim 7.

Q 10 13. An assay in accordance with ^{Claim 8} any of Claims 8-12, wherein said sample obtained from the individual is a whole blood sample.

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14. A kit for use in the diagnosis of schizophrenia comprising:

15 i. a support comprising one or more peptides in accordance with any one of claims 1-7 immobilized onto it;

ii. an anti-human immunoglobulin antibody or fragment thereof conjugated to a detectable marker;

iii. reagents required for carrying out the assay, and;

iv. instructions for use.

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Abstract

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